



TANGENT

PROTOCOL

WHITE PAPER



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Introduction

TANGENT is a permissionless protocol on the Cardano blockchain that integrates non-fungible tokens, decentralized finance and smart contracts in a web3 app. Our mission is to create robust DeFi tools and services that can be utilized by other projects, developers, creators, NFT artists and DeFi users.

The **TANGENT REDEEMABLE NFT LAUNCHPAD** supports artists, creators and enterprises whilst allowing for the sale and funding of tangible NFTs backed by the tokenization of real-world items, products and assets. Each Redeemable NFT is backed 1 to 1 by a physical item or product in the real world and these can be redeemed from the NFT issuer via the launchpad redemption function.

The **TANGENT NFT FARM** provides DeFi services and solutions on Cardano to projects, developers and end users. Tangent is a **DeFi-as-a-Service (Daas)** platform serving the farming needs of the Cardano community. NFT Farming is the next step in the evolution of complex NFTs, that on one level are collectible digital art pieces but on another, form parts of smart contracts that are utilized within decentralized finance. These NFTs are not only aesthetically pleasing but possess staking capabilities within Farming Pools thus generating yield rewards for each user. Tangent has coined the phrase Operative Artwork to describe this function. The TANGENT NFT FARM will eventually be completely permissionless, providing a platform where any user (even those with zero knowledge of coding) can create their own NFT Farming Pools on Cardano.

TANGENT is committed to supporting digital artists who plan to mint on the Cardano blockchain. The team implements this pledge in a variety of ways. Firstly, the treasury is guaranteed through an on-chain governance system included within Tangent's own decentralized autonomous organization. Secondly, the funding for prospective artists is decided by the Tangent community, where only token holders have the option to recommend allocation by participating in the TangentDAO governance protocol in a democratic manner.

TANGENT is built on smart contracts that are open source and transparent. We thrive on community collaboration and invite the public to inspect, modify and build upon our code as they see fit.

TANGENT



Background to Tangent

Project Tangent was conceived in early 2021, upon the realization that the Cardano chain required a decentralized radical art and finance project that honored the chain's developers, contributors, vision and inspirations. With the exponential growth of the Non-Fungible Token (NFT) industry and its huge adoption across a variety of blockchains, Tangent is on a mission to create an innovative way to bridge the gap between NFTs, finance and tangible real world asset classes. The Tangent DeFi app is a permissionless platform where investors, artists and all other parties can stake, receive rewards and experiment with groundbreaking NFTs seamlessly, in a safe and sustainable manner on the Cardano blockchain.

Furthermore, Tangent provides a platform for users to purchase virtual land, across the **Tanglobe**, a 3-D virtual environment that merges digital life with real world experiences, whilst creating endless new playgrounds to build and landscape with personal digital art and other possessions. **Tanglobetrotters** are players in the Tanglobe who have the ability to take part in land grabs through on-chain game battles, bringing a new dimension to play-to earn initiatives.

Why TANG?

The Tang Dynasty: Marked by strong and benevolent rule, economic expansion and a cultural efflorescence of cosmopolitan style, the Tang dynasty emerged as one of the greatest empires in the medieval world. The token name 'TANG' is our homage to both the IOHK Foundation & our savior Charles Hoskinson who laid the foundation for the Cardano Network today, whilst calling the colorful city of Hong Kong his home.

- Hong Kong entered a new era under the Tang Dynasty.
- Blockchain entered a new realm when Cardano was born.



Redeemable NFT Launchpad

Using NFT's to tokenize assets is an exciting new area of NFT utility. However in Cardano there exists no service that specializes in selling and more importantly the process of redeeming such NFTs.

What is a Redeemable NFT?

A redeemable NFT is a non-fungible token that is backed 1 to 1 by a physical asset in the real world or even a digital asset in the metaverse. Redeemable NFTs are promissory as they can be exchanged for the underlying asset which is provided by the issuer who backs the NFT. In this sense the NFT acts as debit note for the future delivery of a product or service.

What is the NFT Launchpad?

The Redeemable NFT Launchpad provides a service for creators, artists and businesses that supports the marketing and launch of redeemable NFTs on the Cardano Network. The NFT Launchpad helps traditional businesses and organizations to tokenize their products or services as non-fungible tokens on the blockchain. This ensures tokenized products are compatible with existing online NFT marketplaces whilst supporting the frictionless trading of these products/services as NFTs in the secondary market. Businesses who use the Launchpad to sell their products gain instant worldwide brand exposure in the decentralized online ecosystem known as web3 and connect with a previously untapped but growing market segment of 300 million tech-savvy cryptocurrency users. This also gives traditional businesses access

to a new online-based revenue stream with lower commission and transaction fees than mature web2 e-commerce platforms such as Shopify, Groupon, or Amazon.

Tangent provides all the technical expertise and support needed to tokenize assets, products and services as NFTs on the blockchain via our web3 application. The NFT Launchpad then facilitates the first market sale of the digital representations of the physical product (in the standard of NFTs) in exchange for ADA or a stablecoin backed by USD. The NFT Launchpad also has a redemption zone where customers can input the information needed for redemption (such as delivery address, contact details etc) and pay any fees associated with the redeeming process. When an NFT holder decides to redeem, their token is taken out of circulation and effectively locked away forever in a smart contract vault to ensure that it cannot be redeemed again.

The final step of the redemption process is fulfilment (i.e. the actual delivery of the goods/services). This responsibility lays with the company that backs the product or service, also known as the NFT issuer. Redemption could be done by worldwide delivery via an express courier or via QR code which is scanned when the customer visits a physical branch location to collect a product in person. It is important to note that redeemable NFTs can also be backed by digital items (from the metaverse), or even a social impact, and that the NFT is in effect acting as debit note which promises a good/service at some time in the future.



Tangent NFT Farming

TANGENT provides DeFi services and solutions on Cardano to projects, developers and end users. TANGENT is a DeFi-as-a-Service (DaaS) platform that provides zero-code turnkey solutions. The flagship service of our DeFi offering is the TANGENT NFT FARM; a permissionless DeFi tool that allows anyone to participate or create their own farming pools with zero coding knowledge.

What is a Farming Pool?

Farming in the process of sowing seeds in soil and adding water to grow fruit and vegetables. But in cryptocurrency farming has a different meaning. Farming is a term given to timed rewards released to liquidity providers or token holders who stake their holdings in a farming smart contract. This benefits users who hold their tokens for substantial periods or who provide liquidity to a token pair on a Decentralized Exchange (DEX) as they are able to earn bonus rewards by staking in the farming smart contract.

Farming pools are an important mechanism in the DeFi ecosystem because they provide the ability for project owners and developers to reward users who provide liquidity on decentralized Automated Market Maker (AMM) exchanges with passive income in the form of a new token. Often, but not always, the reward token provides the user with a special benefit, such as voting rights. A number of Tangent farming pools reward users with multiple reward tokens, in addition to the fees they earn directly from the decentralized AMM

exchange, making the process lucrative to early adopters and long-term holders. Farming pools are also an efficient way to distribute tokens to the community in a fair and transparent manner.

DeFi-As-A-Service (DasS)

TANGENT Farms are a DeFi-as-a-Service that is designed for all, whether it be a user who is looking for some great yield-farming opportunities or a project owner and developer who wants to create a farm for their token. With an aesthetically pleasing and easy to use UI, and no code required approach, our tools make creating your own farming pool an enjoyable and simplistic experience.

Staking NFTs: Operative Artwork

Operative Artwork are NFTs that have financial utility and can be staked in farming pools within the Tangent DeFi app. This is the next evolution in the development of NFTs as their non-fungible nature make them perfect to represent unique assets within decentralized finance.

The goal of NFT farming is to provide incentives to NFT holders to attract and retain users by offering attractive rewards and extra utility. Using the Tangent self configurable farm creation tool, users can create a farm by whitelisting NFTs and assets that are accepted as well as selecting the rewards to be shared to pool participants. Creating an NFT Farm is an effective way for developers and artists to bring attention to their projects and reward users or followers.



Tangent DAO

The Tangent DAO is a self-sovereign smart contract, backed by its own Cardano native governance token called TANG, which is the governor and guiding force of the Tangent network.

What is a DAO

A Decentralized Autonomous Organization (DAO) is a distributed sovereign system governed by code and the token holders only. At the heart of the DAO is a smart contract which codifies rules and guidelines for the self-governing organization.

How does it work

The Tangent DAO allows TANG holders to partake in the governance of the Tangent network by voting on proposals in a democratic fashion proportional to their holdings of TANG. Proposals can even modify or create completely new internal governance parameters, as well as invoke contract calls on any smart contracts for which the DAO is set as the governor. The DAO will use a snapshot system which can determine a user's TANG balance at the precise moment a proposal goes live and requires they lock the balance for a set period of time so that a vote for or against can be recorded.



TANG: The Governance Token

All members of Tangent are firm believers in the power of strong cryptography and privacy-enhancing technologies as a route to social and economic change within the financial industry. As advocates for permissionless financial services, we built Tangent as an independent platform owned and led by the community. To serve this aim, we created the **TANG** token whose primary use case is as a governance token to actively guide Tangent towards self-sustainability and shared community ownership. The token has been minted on the Cardano blockchain and is a tradable asset which functions like most other native Cardano tokens, except it has additional utility as a voting mechanism.

The TANG token gives holders the ability to participate directly in governance by voting on proposals related to the TANG token's development and usage as well as development and direction of the Tangent platform itself. Any proposal that meets the proposal thresholds set by the governance protocol are eligible to be voted on by the community.

Initially, governance parameters are set by the Tangent Foundation, but these can be adjusted with a simple proposal; though it's worth collaborating off-chain via the official Discord channel to ensure there is enough community support before submitting a proposal to establish if it is to be well received. Governance is important because it ensures that TANG holders can vote to allocate resources towards artistic grants, strategic partnerships, governance initiatives, NFT bounties, additional NFT farming pools and other programs.



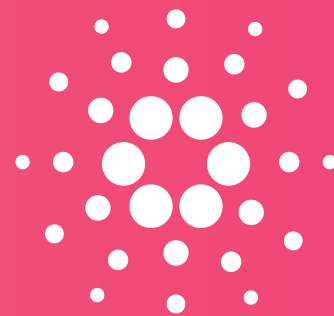
Background to Cardano

Founded in 2015 by Charles Hoskinson, one of the original five founding members of Ethereum, when he became disenfranchised with Ethereum and left to pursue the goal of developing a “more balanced and sustainable ecosystem” for cryptocurrencies. In late 2014, Charles Hoskinson and former Ethereum colleague Jeremy Wood were living in Hong Kong and decided to form IOHK (Input Output Hong Kong), an engineering and research company that would go on to become one of the three main organizations overseeing the development of the future Cardano blockchain. The other two organizations are The Cardano Foundation, an independent standards body focused on regulatory issues, and Emurgo, an investment-focused organization that aims to develop, support and incubate commercial ventures on the Cardano blockchain.

Today Cardano is a proof-of-stake blockchain built on meticulous scientific and mathematical principles that ensures unparalleled security, sustainability and scalability. It is an open-source multi-protocol based platform that supports the development of Turing-complete decentralized applications, systems and societies. Cardano also has a robust digital infrastructure that allows for the creation of multiple on-chain assets that exist within the same digital ledger and inherit the underlying security of the main chain. As a third-generation public blockchain it seeks to build on the successes (and avoid the pitfalls) of predecessor cryptocurrencies such as Bitcoin and Ethereum. It aims to tackle

scaling and infrastructure problems that first cropped up in Bitcoin, by applying a rigorous scientific philosophy and research driven peer-reviewed approach that has never been used in the past with regards to blockchain development.

The team behind Cardano is not only inspired by science and mathematics but also by Romanticism and the Renaissance. The blockchain itself is named after Gerolamo Cardano, a prolific polymath and one of the most influential mathematicians of the Renaissance period. Cardano’s coin for peer-to-peer transactions is named ADA after Ada Lovelace, a 19th-century mathematician who is recognized as the first computer programmer, and daughter of the poet Lord Byron. Cardano developers lovingly name its major blockchain milestones, known as eras, after famous English poets such as Byron, Shelley, Goguen. It is worth noting that Cardano uses a novel multiple protocol approach that combines the proof of stake based consensus mechanism called the Cardano Settlement Layer (CSL) with a set of protocols called the Cardano Computation Layer (CCL). This provides developers with a robust platform that can support multiple assets on chain in a secure, sustainable and eco-friendly blockchain environment.





Why Cardano Blockchain

When deciding which blockchain to utilize to build Tangent, we thoroughly examined many factors. The primary reasons that made Cardano the optimal choice was its permissionless nature, security levels, sustainability and its commitment to peer-to-peer scientific reviewing.

→ *Permissionless*

The members of Tangent are advocates of “Permissionless Innovation” and the idea that the internet should be a force for free and open creativity, outside of the walled gardens of the offline world. Therefore we are strong believers in the power of permissionless protocols and the crucial role they play in enabling new forms of social organization and digital governance to evolve online. One of the many benefits of Cardano is that decentralized applications can be built and launched on the blockchain without any permission from a centralized authority. This helps to foster creativity and avoid censorship from authoritarian organizations. For example, once an application is launched there is no downtime, fraud, or possibility of interference from a third party.

→ *Secure*

The Cardano blockchain is secured by nodes using an energy efficient Proof-of-stake (PoS) consensus protocol called Ouroboros. This mechanism allows the nodes of the Cardano network to agree on the state of all information recorded on the blockchain and prevents certain kinds of economic attacks. Proof-of-stake

is a tried and tested consensus mechanism that has kept established blockchains such as Bitshares secure and decentralized for many years.

TANG is the governance token of Tangent and it is native to the Cardano blockchain which means it inherits all the security guarantees and operational protocols from its layer-1 blockchain just like ADA. For example the responsibility of validating blocks and TANG transactions are outsourced to the Cardano Network of decentralized node operators. Node operators and delegators are incentivised via the chain’s unique rewarding mechanism which rewards participants and promotes honesty whilst punishing selfish behavior.

→ *Peer-to-Peer Scientifically Reviewed*

Cardano is the first peer-reviewed and verifiably secure blockchain. Its underlying protocol, Ouroboros, has been thoroughly analyzed and critiqued as the subject of numerous academic research papers and scientific publications by the cryptographic community. In fact, Cardano’s Ouroboros paper is the second most cited academic paper about cryptocurrencies and blockchain. IOHK, the non-profit foundation that runs Cardano has partnered with an extensive list of academic institutions to refine its algorithms and research all manner of topics related to blockchain. For example, researchers at Lancaster University are developing a “reference treasury model” to find a sustainable way to fund future development for Cardano’s blockchain. The result of which is that Cardano is the first blockchain based on the innovative



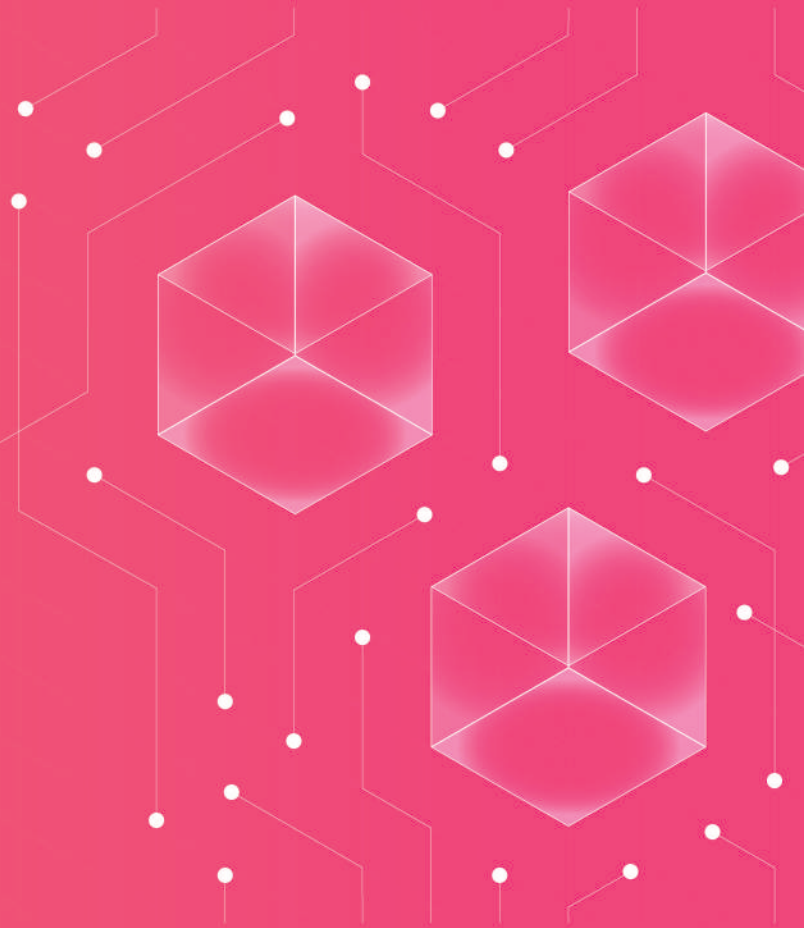
Proof-of-Stake consensus algorithm with rigorous security guarantees comparable only to those achieved by the bitcoin blockchain protocol.

more sustainable and appropriate for mass adoption.

→ *Sustainable*

There are two main blockchain consensus protocols; Proof-of-Work (POW) and Proof-of-Stake (POS). Proof-of-Work is the consensus protocol used by Bitcoin and Ethereum where security is handled by sophisticated and very expensive machines known as miners. The miners solve complex equations to create new blocks in a high energy intensive process known as mining. As the number of miners participating in the network increases so does the difficulty of the equations being solved. This creates a huge problem as subsequently the energy required to create new blocks increases, also impacting upon the network's ability to scale whilst creating centralization in the form of mining cartels.

Cardano solves this problem by utilizing a sustainable Proof-of-Stake (PoS) consensus algorithm that is four million times less energy intensive than Bitcoin mining. In this Proof-of-Stake blockchain protocol, the network randomly selects participants to make new blocks based on their stake; the amount of ADA they assign to the task of securing the blockchain. As this process, known as "staking", is less energy intensive and does not require expensive hardware, it also lowers the barrier to entry and allows for a larger array of participants to join and begin contributing to the security of the blockchain. This enables the network to scale while increasing decentralization which makes the Cardano blockchain





Recognising the usability of NFTs within Finance

Non-Fungible Tokens (NFTs) are different to Bitcoin and most other cryptocurrencies because they are not interchangeable; for example if you traded one non-fungible token for another, you would have something completely different. This is because each NFT is one of a kind with its own unique and non-interchangeable cryptographic hash that is securely recorded on the blockchain. These distinct characteristics make NFTs ideal to represent unique assets such as art, music, videos, collectibles and even land on the blockchain.

In 2021 the idea of scarce, provable and valuable digital art captured the public imagination and there followed a proliferation in the number of NFTs being minted and traded with a staggering \$24.9 billion in total sales volume that year alone. This consequently led to a surge in the number of marketplaces trading non-fungible tokens and revolutionized the art world; removing intermediaries and connecting artists with audiences while monetizing NFTs in what has been akin to a modern day digital art renaissance. This has however still only scratched the surface of the potential revolutionary power of NFTs and this disruptive technology has application in other markets and industries beside art.

Although the first wave of NFT development has been driven by the digital art scene with a strong focus on price speculation, the upcoming stage of growth will be more sustainable and driven by the functionality that non-fungible tokens can provide in decentralized finance

and play-to-earn blockchain gaming. Tangent has created a platform for the deployment of NFTs with high level utility in finance by combining operative artwork, tokenization and fractionalization to represent unique assets.

→ *Operative Artwork*

This is the next step in the development of complex NFTs, that on one level are collectible digital art pieces but on another level are also form parts of smart contracts that can be utilized within decentralized finance. This is why we coined the phrase, **operative artwork**, to describe our novel approach to NFTs which can also perform functions within smart contracts used in decentralized finance applications. The first operative artwork pieces to be released, the **Tangent Genesis Edition NFTs**, are not only aesthetically pleasing but also packed full of programmable financial utility and other benefits to reward early adopters. Operative artworks can be staked alongside other assets within Liquidity Mining and Yield Farming Pools to generate passive income for investors. Operative artworks can also be locked into NFT Farming Pools to earn more rewards or lent out to other users in return for a fixed fee. Operative artwork that are backed by real world assets are transforming the NFT landscape by creating a new class of digital assets that generate yield income for users and provide an inflation hedge against a decrease in the purchasing power of money.



→ *Tokenization*

The tokenization of tangible (i.e. real estate, wine, etc) and intangible (i.e. data) assets reduces bureaucracy and simplifies the process of investing capital. Commodities and asset classes that were once upon a time out of reach or too complex and cumbersome for a large percentage of the world's population can be easily financed and traded freely as NFTs in permissionless online Web3 marketplaces. This is one of the most exciting possibilities for NFTs as it involves the creation of new markets and new investment possibilities that were previously unimaginable or perhaps logistically difficult to implement. **Cryptographic Traded funds** (CTFs), similar to modern day ETFs, can be created as NFTs that are linked to a unique basket of cryptocurrencies or a mixture of real-world assets or both. These cryptographic funds can even be tailored to a client's individual specification and contain all kinds of investments with information such as composition, verifiable and traceable on the Cardano blockchain for full transparency. For example, cryptographic funds that give instant exposure to the top 10 Cardano projects by marketing capitalization or to the 10 most rare Japanese Suntory Whiskey vintages of the past century, can be created and traded as NFTs in the same marketplace. NFTs composed of high yield generating holiday rentals could be created and financed within niche communities, allowing for investors to receive passive income linked directly to the profit of the underlying real estate. Valuable medical data can be monetized by being turned into NFTs and sold directly to insurance companies,

empowering people and generating new passive income streams that would have previously only been exploited by opportunistic medical associations and data brokers.

→ *Fractionalization*

Fractionalization of non-fungible tokens is the process in which an NFT is divided into smaller fractions that are fungible and then can be sold or auctioned to the public creating multiple owners with a shared interest. Fractionalization plays a key role in democratizing investing and lowering the barrier to entry to access financial services due to greatly reducing the initial capital needed to invest, allowing for a more diverse range of participants to enter the market. This creates a more inclusive environment for investors as those with limited funds can still gain exposure to investable assets and thus begin their path towards financial freedom. For example, in the real-world, it would be difficult for thousands of people to own a high value asset such as a luxury apartment at the same time. However with the power of fractional NFTs, a piece of real estate can be divided into millions or billions of equal digital fractions and traded safely allowing for many investors to own the same property and gain directly from the benefits of capital appreciation usually associated with a booming property market. Fractionalization can also benefit asset owners as it allows them to unlock liquidity by selling a percentage of their NFT on the open market whilst still retaining a majority stake and ownership control.



Mission of the Tangent Team

Tangent's mission is to merge art with finance on the Cardano (ADA) Network by focusing on the development of Non-Fungible Tokens and their applications within finance and gaming. Tangent is the radical art project built on the Cardano (ADA) blockchain with regular innovative and experimental NFT launches that push the boundaries between the real and digital world. Looking into the future, the team plans include the integration of an on-chain gaming hub & the incorporation of the Tangent Artistic Grants programme, with the mission to support artists who mint on the Cardano blockchain with publicity and financial backing.

Holders of the TANG token have the option to vote on the development and direction of the Tangent ecosystem by using proposals in the Tangent DAO. For example a proposal could be passed that enables the ability for users to pay for art (both physical & digital) and on chain transactions using the native TANG token or another cryptocurrency asset. Tangent utilize the low fees and security of the Cardano Network to power the Tangent DAO and ensure our tools and services are accessible to all.

Tangent acts as a bridge between both the artist & investor by creating a platform for emerging talents to grow within Cardano through the implementation of artistic grants and our ambassadorship programme. The team's aim is to cut out the use of third-party brokerage, allowing the artist to receive a fair percentage for the art created. Tangent offers exposure to both traditional and decentralized

finance services via our DeFi-as-a-Service ecosystem by leveraging the powerful usability of the Cardano Network in conjunction with both our **Tanglobe** and the Tangent DAO powered by the native governance token TANG.

The blockchain industry is currently undergoing the largest fundamental shift in its recent history, equivalent to those of the telecom industry, personal computing and the internet two decades ago. Tangent is contributing to this change with a clinically executed plan to pay homage to the Cardano Network through a one-of-a-kind NFT staking platform.

“

The possibilities of merging Art with DeFi Farming whilst giving digital artists a platform to grow, is our encompassing inspiration for project Tangent”

**Ben Gordon, Co-founder,
Tangent**



Providing a platform for Artists

It is clear that the merging of both blockchain technology and the art world is here to stay. The trustless technology behind immutable public ledgers has already begun its application within creative industries to help guard against forgeries, provide trustworthy traceability for art purchases and connect artists directly to potential curators.

In addition to cutting out intermediaries, securing copyrights and making it easier to trace artwork, the combination of blockchain and art has these noticeable benefits:

- **Tangent** creates an interconnected online platform where creators can be gifted materials & tools to aid in art creation
- empowers small entrepreneurs to bring an end to the dominance of auction houses & art galleries
- allows for the anonymity of the collector
- provides a traceable, certification of proof that a given art piece is in fact their possession
- certifies the originality & quality of the artwork seen on screen
- demonstrates artwork through a digitalized gallery, removing the need for a physically located space

Tangent continuously supports digital artists through a dedicated financing

system to help artists achieve the recognition they deserve. We are passionate about creating a platform to provide exposure to budding, niche artists with far-reaching ambitions. Tangent plans on fostering their growth within the digital art and finance scene. For this we require more artists!

Artists can apply for an artistic grant from the Tangent with the potentiality of receiving donations ranging from hundreds up to a cap of 20,000 USD or equivalent.

Each application for the scheme will be assessed on an individual basis, with chosen Artists being invited to a secondary meeting to share their artwork story remotely. Tangent's passion lies in Bohemian, quirky artwork.

The funkier the better!

If you feel you need extra funding to create your objet d'art then applications are invited here.

“

We're all given a window of opportunity, I think all artists are, of any genre. A window when you're truly relevant, the spotlight's on you and people are watching what you do.”

Eric Church



The Link Between Cardano Network & Mathematics

Network Name: Cardano

Abbreviation: ADA

Influencers: Gerolamo Cardano & Ada Lovelace

Fact file - Gerolamo Cardano (1501-1570):

Gerolamo Cardano was a celebrated Italian Renaissance mathematician, physician, astrologer and gambler, whose writings on the use of negative numbers are the earliest known in Europe. As a physician, he gave one of the first clinical descriptions of typhoid fever. The illegitimate child of a mathematically gifted lawyer who was a friend of Leonardo da Vinci, he entered the University of Pavia in 1520 and later studied medicine at Padua. His eccentric and confrontational style earned him few friends and he had difficulty in finding work. Eventually, his reputation as a physician preceded him and his services were highly valued at the courts.

Today, Cardano is mostly remembered for his achievements in algebra. He published the solutions to the cubic and quartic equations in his book *Ars magna* (1545). The solution to the cubic was communicated to him by Niccolo Tartaglia (who later claimed that Cardano had sworn never to reveal it, and became embroiled with Cardano in a decade-long fight), and the quartic was solved by Cardano's student Lodovico Ferrari. Both were acknowledged in the foreword of the book. Cardano was notoriously short of money and kept himself afloat by being an accomplished gambler and chess

player. His book about games of chance, entitled, *Liber de ludo aleae*, written in the 1560s but published posthumously in 1663, contains the first systematic treatment of probability, as well as a section on effective cheating methods. Cardano invented several mechanical devices including the combination lock, the Cardano suspension or gyroscope (consisting of three concentric circles that allow a supported compass to rotate freely), and the Cardan shaft, which allows the transmission of rotary motion at various angles and is used in vehicles to this day. He made several contributions to hydrodynamics and claimed that perpetual motion is impossible, except in celestial bodies. He published two encyclopedias of natural science that contain a wide variety of inventions, facts, and occult superstitions. For his worldly contributions, Tangent felt it essential to honor him with his own radical, digital art piece.

(G.Gigliani, 2013)





Fact File – Ada Lovelace (1815–1852):

Ada Lovelace had a fascination with science and mathematics that defied the expectations of her class and gender at that time. After being introduced at the age of 17 to inventor Charles Babbage, her work ensured she would become one of the most important figures in the early history of the computer. She was one of the many figures in the history of science whose work was only properly appreciated posthumously. Lovelace is particularly intriguing as, not only was she a woman working during a period when men dominated the fields of science and mathematics, but she also had a unique and forward-thinking insight into the potential of computers.

Ada met Babbage at a party in 1833 when she was seventeen and was entranced when Babbage demonstrated the small working section of the Engine to her. Her mathematical studies were intermittent with marriage and motherhood but resumed when domestic duties allowed. In 1843 she published a translation from the French of an article on the Analytical Engine by an Italian engineer, Luigi Menabrea, to which Ada added extensive notes of her own. The Notes included the first published description of a stepwise sequence of operations for solving certain mathematical problems and Ada is often referred to as ‘the first programmer’. Perhaps more importantly, the article contained statements by Ada that from a modern perspective are visionary. She speculated that the Engine might act upon other things besides numbers. The idea of a machine that could manipulate symbols in accordance with rules and that numbers could represent entities other than quantity mark the

fundamental transition from calculation to computation. Ada was the first to explicitly articulate this notion and in this she appears to have more foresight than Babbage. She has been referred to as the ‘prophet of the computer age’. Certainly she was the first to express the potential for computers outside mathematics. Tangent’s artistic tribute to her is well-founded and applauded.



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The Analytical Engine
weaves algebraic
patterns just as the
Jacquard loom weaves
flowers and leaves

Lovelace, 1843

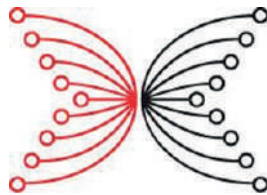
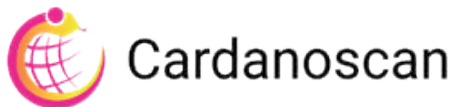


Friends of Tangent

Compiled below is a list of some of the entities that Tangent plans to or currently collaborates with, builds on or integrates within.

Without these friends listed below, project Tangent would not be possible.

This list will be updated during Whitepaper V2 release, Phase 4 - 2022:





Disclaimer

This paper is for general information purposes only.

Please read this section of the document carefully. It is recommended that you consult legal, financial, tax, or other professional advisors and if you are in any doubt about the action, you as an investor, should take.

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The author developed this document based on an evaluation method generally accepted by the cryptocurrency community (quantity theory of money and discounted cash flow analysis) and relies on a generally accepted school of economic thought (monetarist school of economics).

It is important to note that the blockchain and cryptocurrency area is still very new and volatility in prices is common. There is little historical data, past performance results, or academic research on the topic of cryptocurrencies when compared to the historical data available for standard stocks and equities, let alone the lack of data available for tokenization, economics, and long-term valuations of these digital assets.

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